

SPITSYN, A. K.

Spitsyn, A. K. "Investigation of dephenolization of black-oils." Min Higher Education Ukrainian SSR. Khar'kov Polytechnic Inst imeni V. I. Lenin. Khar'kov, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

68-58-4-11/21

AUTHOR: Spitsyn, A. K., Candidate of Technical Sciences

TITLE: The Influence of Phenols on the Yield of Beta-Picoline Fraction During Processing of Raw Light Pyridine Bases (Vliyaniye fenolov na vykhod beta-pikolinovoy fraktsii pri pererabotke syrykh legkikh piridinovykh osnovaniy)

PERIODICAL: Koks i Khimiya, 1958, Nr 4, pp 43-46 (USSR)

ABSTRACT: The dependence of the yield of β -picoline fraction on the concentration and nature of phenols present in the raw pyridine bases (formation of azeotropic mixtures) was investigated on specially prepared mixtures which were distilled under laboratory conditions. In order to remove the negative influence of phenols either the rectification of raw bases should be carried out in the presence of alkali or phenols should be removed altogether. The applicability of these two methods is discussed. The author together with N. V. Akimova developed, under laboratory conditions, the following method of dephenolising raw bases: raw bases are diluted 1:1 with absorption oil (of a boiling temperature not lower than 230°C). The solution obtained is washed with 13-15% alkali taken in a proportion of 1:1. In order to reduce losses of bases the phenolates separated from the oil-

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68-58-4-11/21
The Influence of Phenols on the Yield of Beta-Picoline Fraction
During Processing of Raw Light Pyridine Bases

pyridine layer are washed with absorption oil which is then used for the initial dilution of the next batch. A 97% dephenolation can be obtained with the loss of bases not exceeding 2-3%. It is intended to try this method under industrial conditions. There are 5 tables and 3 references, 2 of which are Soviet, 1 German.

ASSOCIATION: Fenol'nyy zavod (Phenol Works)

1. Phenols--Chemical effects 2. Pyridine derivatives--Production

Card 2/2

68-58-7-12/27

AUTHORS: Spitsyn, A. K., Candidate of Technical Science and
Smirnov, A. M., Engineer

TITLE: An Increase in the Yield of β -Picoline Fraction and the
Enlargement of its Resources (Povysheniye vykhoda
 β -pikolinovoy fraktsii i rasshireniye resursov)

PERIODICAL: Koks i Khimiya, 1958, Nr 7, pp 41-43 (USSR)

ABSTRACT: The technology of processing raw pyridine bases used on
the Fenol Works which gives a comparatively high yield
of β -picoline fraction is described. The processing is
carried out in three stages: a) primary rectification in
the presence of alkali with the production of hydrates
of pyridine and its homologues, b) dehydration of the
hydrates with concentrated solutions of alkali and
c) rectification of dehydrated bases with the production
of final fractions. The yield of the picoline fraction
is about 11% of pyridine bases, corresponding to about
90% recovery. As β -picoline fraction is also present
in pyridine bases recovered from tar oils, therefore,

Card 1/2

AUTHOR: Spitsyn, A.K. Sov/68-59-10-15/24

TITLE: On the Problem of Decreasing Naphthalene Losses During Its Purification with Sulphuric Acid

PERIODICAL: Koks i khimiya, 1959, Nr 10, pp 46-48 (USSR)

ABSTRACT: Naphthalene losses during the washing of naphthalene vary between 5-7%. The washing process was investigated in order to find out how these losses can be decreased. Pressed naphthalene, which is usually submitted to acid washing, contains 2-2.5% of admixtures, 40-90% of which is thionaphthene. Although the removal of 40-50% of the admixtures is considered satisfactory, the consumption of acid is high (9-13% of the pressed naphthalene), and depends on the amount of thionaphthene in the treated product. This is due to thionaphthene being removed by sulphonation. However, under the conditions of washing together with thionaphthene, some of the naphthalene is also sulphonated. It was established that there is a definite relationship between the amounts of sulphonated thionaphthene and naphthalene which amounts to 1:6 or 1:7 (calculated on the final washing results), eg if

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Sov/68-59-10-15/24

On the Problem of Decreasing Naphthalene Losses During Its Purification
with Sulphuric Acid

pressed naphthalene contains 1.5% thionaphthene, then on removal of 50-60% of its content about 5% of naphthalene will be simultaneously sulphonated. Admixtures which become resinified or polymerised during washing are removed easily with a consumption of only 2-3% of acid. Thus sulphonation of naphthalene, leading at a temperature of 85-90°C, to the formation of mainly c-naphthalene - sulphoacid is the main cause of naphthalene losses. The concentration of the spent acid (except of the first wash) is about 70-74%. At this concentration naphthalene sulphoacids are practically insoluble in the acid, but soluble in naphthalene. Therefore after acid washing, naphthalene usually contains 8-12% of sulphoacids. Resins and polymers formed during washing of naphthalene are soluble in the spent acid and are almost completely removed with it. In the first two spent acids the concentration of resins and polymers amounts to about 10 and 3% respectively. The subsequent washes are practically free from these admixtures. Naphthalene is little soluble in spent acid, therefore its losses with acid should be small.

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Sov/68-59-10..15/24

On the Problem of Decreasing Naphthalene Losses During its Purification
with Sulphuric Acid

Sulphoacids are well soluble in hot water, therefore, on water wash, the main proportion of sulphoacids is removed. With the usual amount of the water (7%) used for washing, spent water contains about 50% of naphthalene sulphoacids. On dilution of spent water with pure water at 85-90°C free naphthalene forms a distinct upper layer. Water wash does not remove sulphoacids completely, the remaining is removed with alkali wash. When the alkali washing is done with 1.5% of a 20% alkali solution, then the spent alkali contains about 40-65% of free naphthalene. On dilution of the spent alkali with water (1:1) and heating to 85-90°C, practically complete separation of naphthalene takes place. On decreasing the concentration of alkali for washing to 10% and doubling the volume taken for a wash, free naphthalene in the spent alkali was practically absent. Thus sulphonated naphthalene concentrates in spent water and alkali washes. Recovery of this naphthalene by hydrolysis was tested with satisfactory results. The combined water and alkali washes are heated in an autoclave up to 160-170°C (pressure 6-7 atm).

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On the Problem of Decreasing Naphthalene Losses During Its Purification
with Sulphuric Acid

In a few minutes practically the whole naphthalene is separated forming a layer on the top of the liquid. The hydrolysis can be carried out either in an alkali or acid medium. The amount of regenerated naphthalene amounts to 4-5% of the total naphthalene submitted to the washing treatment. It is pointed out that in cases of a high thioraphthene content in naphthalene, it would be advantageous to purify it not by acid treatment but by aluminium chloride treatment (no details). There is 1 Soviet reference.

ASSOCIATION: Fenol'nyy zavod
(Phenol Works)

Card 4/4

S/081/62/000/023/080/120
B144/B186

AUTHOR: Spitsyn, A. K.

TITLE: The solubility of phenols in phenolates as a factor in the dephenolizing of oils

PERIODICAL: Referativnyy zhurnal: Khimiya, no. 23, 1962, 590, abstract 23M167 (Tr. Donetsk. politekhn. in-ta, v. 52, 1961, 39 - 47)

TEXT: The solubility of phenols in phenolates forming in the purification of light and medium coking oil by alkaline solutions was studied as a factor affecting the completeness of phenol separation and the purity of the phenolates obtained. Experimental data were obtained which describe the solubility of the phenols in phenolates, the distribution of the phenols between oil and phenolates as a function of their solubility in the latter, and the effect of the phenol solubility in phenolates on the completeness of the dephenolizing of oil. Curves were plotted which characterize the oil-dephenolizing process as a function of the alkali consumption, the concentration of phenols and the volumetric oil-to-phenolates ratio. [Abstracter's note: Complete translation.]

Card 1/1

ANMÄLNING, Tidig, den 28.07.1944, f. A., inf.

New supporting device for 8-skötter bitumen trailers, Kfz. i der.
mask. 12 v. 0.75t. 4.5. 1945.
(MIRA 1818)

POTEMKIN, K.V.; SPITSYN, A.N.; VLASOV, K.A., glav. red.; SERDYUCHENKO, D.P., doktor geol.-miner. nauk, otv. red.; RADZINSKAYA, M.V., red.izd-va; YEFIFANOVA, L.V., tekhn. red.

[Rare elements in the placer deposits of foreign countries]
Redkie elementy v rossypiaakh zarubezhnykh stran. Moskva,
Izd-vo Akad. nauk SSSR, 1963. 99 p. (MIRA 16:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Vlasov).
(Metals, Rare and minor) (Placer deposits)

SEMELEV, Ye.I.; SPITSYN, A.N.; BUROVA, Z.N.

Hydropyrochlore from Lovozero alkaline massif. Dokl. AN SSSR 150
no.5:1128-1130 Je '63.
(MIRA 16:8)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh
elementov. Predstavleno akademikom N.V.Belovym.
(Lovozero Tundras--Pyrochlore)

Knowledge of the alteration, regular or some terrigenous grains
during weathering and transpiration. Lit. 4 pl. Isksp. no. 1070.
82 Je-F '65. (MIRA 18:4)

Z. laboratoriya osadochnykh pochvnykh iskopayemykh. Gosudarstvennogo
geologicheskogo komiteta SSSR.

S U B J E C T

S U B J E C T USSR / PHYSICS CARD 1 / 3 PA - 1377
A U T H O R WASILOW, W.S., SMIRNOW, L.S., GALKIN, G.H., SPIZYN, A.W.,
 PAZKEWIC, W.M.
T I T L E The Formation of Defects on the Crystalline Lattice in Germanium
 on the Occasion of a Bombardment by Fast Electrons.
P E R I O D I C A L Zurn.techn.fis, 26, fasc. 9, 1865-1869 (1956)
 Issued: 10 / 1956 reviewed: 10 / 1956

The purpose of the present work was to clear up the dependence of the cross sections of formations of defects of the FRENKEL type on the electron energies W and to find out how many energetic levels, that are connected with the aforementioned structural defects of the crystal, influence conductivity. Experiments were carried out in the course of which the monocrystals of germanium with an electron conductivity were bombarded with monoenergetic electrons

$(\frac{\Delta W}{W_0} < 8\%)$ of an energy of from 400 to 1000 keV. Electron irradiation and the

following measurements were carried out at room temperature. Thin (50μ) monocrystalline plates were used. The energy loss in them amounted to not more than 60 keV. Three different methods were employed for measuring the specific resistance q of the irradiated crystals: 1.) A homogeneous crystal with a known initial specific resistance q_0 was bombarded with electrons that impinged upon a surface of the greatest area. The resistance of the sample was measured, whereupon a layer having a thickness of 50μ was ground together with the bombarded

Zurn.techn.fis, 26, fasc. 9, 1865-1869

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surface and the resistance of the remaining part of the crystal was measured. From the distance between resistances the resistance of the part which was ground together was determined. . Herefrom its specific conductivity σ after bombardment was computed.

2.) A homogeneous crystal was bombarded as described under 1.) and then its bombarded surface was pasted on to a glass by means of Canada balsam where it was ground together to a thickness of 50μ . The resistance of the thin remaining plate was then measured.

3.) The resistance of monocrystalline plates with a thickness of 50μ , which were pasted on to glass, was measured, whereupon they were bombarded with electrons. The resistance was then newly measured.

When measuring the resistance of thin crystals of germanium it is always necessary to reckon with the possibility of the formation of surface layers with increased resistance. The experiment showed that the threshold value of the energy W_{min} , from which onwards the conductivity of germanium crystals diminishes by irradiation, is equal to $500 + 20$ keV. The results obtained by the present work are not in contradiction to the hypothesis of JAMES and LARK - HOROVITZ if it is assumed that a donor level of the defect and an acceptor are near the corresponding zones. (The hypothesis says that to an atom in the

SPITSYN, A.V.

"The Structural Defects in Germanium Monocrystals Irradiated by Beta-
Particles and Fast Neutrons and the Influence of These Defects on Electron-
Hole Recombination," V.S. Vavilov, L.S. Smirnov, A.V. Spitsyn, V.M.
Patskevich, M.V. Chukichev, Moscow, USSR

Paper submitted for presentation at the International Conference on
Radioisotopes in Scientific Research, Paris, 9-20 Sep 1957.

Acad. Sci. USSR, Moscow

Presented at Conf. by V. S. Vavilov

REF ID: A4

AUTHOR

VUL, B.M., VAVILOV, V.S., SMIRNOV, L.S.,
GALKIN, G.N., PATSKEVICH, V.M.,
SPITSYN, A.V.

89-6-7/24

TITLE

On the transformation of the energy of β -particles into
electric energy in germanium crystals with P-N transitions.
(O preobrazovanií energii β -chastits v electroenergiyu v
kristallakh germaniya s P-N-perekhodami. - Russian)
Atomnaya Energiya 1957, Vol 2, Nr 6, pp 533-537 (USSR).

PERIODICAL

ABSTRACT

In 1955 the authors carried out experiments in the determination of the degree of efficiency of the transformation mentioned in the title. The P-N transitions were obtained by the melting of indium. Sr⁹⁰ - Y⁹⁰ preparations served as sources of β -particles. The total activity of the primary radioactive preparations amounted to 50, 100, and 200 milli-curies. As source of β -particles strontium sulphate tablets with 50 and 100 millicurie and strontium carbonate tablets with 200 millicurie were used. A diagram shows the β -spectra of these sources. Also measurements during irradiation of a semiconductor with artificially accelerated electrons (400 to 1150 keV) were carried out. The degree of efficiency

CARD 1/3

recombination. Verets in vse...
of the electrons. With increasing duration of irradiation

CARD 2/3

AUTHORS:

Vavilov, V. S., Smirnov, L. S., Spitsyn, A. V., 57-28-5-6/36

TITLE:

Patskevich, V. M., Galkin, G. N.
On Defects in a Crystal Lattice in n-Germanium (O defektakh
kristallicheskoy reshetki v germanii N-tipa)

PERIODICAL:

Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 960-
-961 (USSR)

ABSTRACT:

In the previous paper the authors communicated the investigation results of germanium crystals of the n- type subjected to an electron bombardment with energies ranging from 0,4 to 1 MeV (Ref 1). There, the experimentally determined modifications of the specific resistance with respect to the energy and the amount of fast electrons, was opposed to the theory of defect formation because of an electron dispersion by means of germanium nuclei by Frenkel'. V. V. Galavanov to whom the authors are indebted, indicated a numerical error. This error was committed in the computation of the integral cross-sections $\int_{\theta_{\min}}^{\pi}$ of electron dispersion on a nucleus at all angles from π to the angle θ_{\min} at which the electron transfers the minimum energy to the nucleus necessary for the formation of a defect. The newly computed theoretical values of $\int_{\theta_{\min}}^{\pi}$ corresponding to

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AUTHORS: Spitsyn, A. V., Vavilov, V. S.

56-2-47/51

TITLE: On the Recombination Capturing of Minority Carriers in n-Type Germanium by Lattice Defects Caused by Irradiation With Quick Neutrons (O rekombinatsionnom zakhvate neosnovnykh nositeley v germanii n-tipa defektami reshetki, obrazuyushchimisya pri obluchenii bystrymi neytronami)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958,
Vol. 34, Nr 2, pp. 530 - 531 (USSR)

ABSTRACT: In a previous work by V. S. Vavilov et al. (reference 1) the cross section of the recombination capture θ of the minority carriers by radiation-caused defects of the crystal structure in n-type germanium (caused by irradiation with quick neutrons) was estimated. The formulae used for the calculation are given. For the estimation of the magnitude θ the values of the mean number N_d of displaced germanium atoms per scattering of a neutron were used, which had been calculated by a formula of H. Fan and K. Lark-Horovitz (re-

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On the Recombination Capturing of Minority Carriers in n-Type Germanium
by Lattice Defects Caused by Irradiation With Quick Neutrons

ference 2). In order to prove the correctness of the calculation of N_d , the authors carried out additional experiments on the irradiation of n-germanium with neutrons. With increasing dosage of the neutron irradiation measurable changes of the specific resistance $\rho - \rho_0 = \Delta\rho$ were found which were compared with the changes of life in the same samples. With the dosages of the neutron irradiation with neutrons used here it can be assumed that the mobility does not change. The change Δn of the concentration of carriers with given $\Delta\rho$ was determined from the theoretical dependence $\rho = f(n)$ mentioned by M. Prince. These dependences are well satisfied by the germanium monocrystals used. Using the data of J. Cleland (reference 4) on the values of Δn , the concentration n_d of defects in all irradiated samples were estimated. From one of the above-mentioned formulae the quantity N_d was determined for the samples irradiated with monoenergetic neutrons. The values of the quantity are close to 260. The data obtained are given in a table. The values of ϵ obtained here are greater by one order of magnitude

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56-2-47/51

On the Recombination Capturing of Minority Carriers in n-Type Germanium
by Lattice Defects Caused by Irradiation With Quick Neutrons

than the cross sections of the capture of carriers by single Frenkel' defects forming in the irradiation of electrons. The increase of Θ obviously is connected with the fact that one of the recombination levels is situated in the upper half of the forbidden band. There are 1 table, and 6 references, 2 of which are Slavic.

ASSOCIATION: Institute of Physics imeni P. N. Lebedev AS USSR
(Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR)

SUBMITTED: November 29, 1957

AVAILABLE: Library of Congress

1. Germanium crystals-Defects 2. Neutron irradiation-Applications

Card 3/3

44169

S/181/62/004/012/016/052
B104/B102

247500

AUTHORS:

Spitsyn, A. V., and Smirnov, L. S.

TITLE:

The theory of radiation defect annihilation in semiconductors
Fizika tverdogo tela, v. 4, no. 12, 1962, 3455-3460PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3455-3460
TEXT: This analysis of experimental data on the annealing of radiation defects in germanium and silicon assumes that three types of radiation defects exist: (1) Knocked-on atoms in the interstices; (2) free vacancies; (3) bound vacancies. The free vacancies have the lowest concentration. The change in defect concentration in course of annealing is described by

$$\frac{dm}{dt} = -m \cdot e^{-\theta/kT} + N_s \cdot (M-m)^{\alpha_s \cdot v}; \quad (1)$$

$$\frac{dN_s}{dt} = m \cdot e^{-\theta/kT} - N_s \cdot N_{A_p}^{\alpha_p \cdot v} - N_s \cdot (M-m)^{\alpha_s \cdot v}; \quad (2)$$

$$\frac{dN_{A_p}}{dt} = -N_s \cdot N_{A_p}^{\alpha_p \cdot v}. \quad (3)$$

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The theory of radiation defect ...

N_A -concentration of the interstitial atoms, N_B -concentration of the free vacancies, m -concentration of those vacancies which are related with impurities ($N_A = N_B + m$); $\nu \approx 10^{13} \text{ sec}^{-1}$ is the frequency of the vacancy oscillations in the bound state. For a solution in quasi-stationary approximation, it is assumed that $m \gg N_B$ and $m \approx N_A$, which is permissible after the annealing period $t_0 = 1/Mv\sigma_3$. M is the total concentration of an impurity type, $v = v_0 \exp(-U_D/kT)$ is the velocity of a vacancy within the crystal, U_D is the diffusion activation energy, σ_3 is the cross section of a vacancy trapping by an atom. $dm/dt \approx dN_A/dt$, $dN_B/dt \approx 0$. Using these expressions the quasi-stationary concentration

$$N_m = \frac{mv e^{-U_D/kT}}{N_A \sigma_p v + (M - m) \sigma_{B,v}} \quad (4)$$

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B104/B102

The theory of radiation defect ...

can be obtained from (2). If the denominator of (4) is written in the

form $\sigma_3 v \left\{ M + N_A \frac{\sigma_p}{\sigma_3} - m \right\}$ and if $(N_A \frac{\sigma_p}{\sigma_3} - m)$ is neglected against M ,

this gives

$$N_s = \frac{mv e^{-U/kT}}{Mc_s v}. \quad (5).$$

Substituting (5) in (3) leads to

$$\frac{dN_A}{dt} = -\frac{mv e^{-U/kT} \sigma_p}{Mc_s v} N_A \approx -\frac{v e^{-U/kT} \sigma_p}{Mc_s} N_A^2. \quad (6).$$

The solution of (6),

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S/081/60/000/016/005/012
A006/A001

Translation from: Referativnyy zhurnal. Khimiya, 1960, No. 16, p. 88, # 64749

AUTHORS: Maydanovskaya, L.G., Spitsyn, B.V.

TITLE: Hydrogen Adsorption and the Catalytic Activity of Titanium Oxides

PERIODICAL: Uch. zap. Tomskiy un-t, 1959, No. 29, pp. 42-45

TEXT: The authors studied hydrogen adsorption on two samples of titanium oxide within a temperature range of -183 to 960°C at an initial pressure of 100 mm Hg. It is shown that the maximum of the isobar curve of hydrogen adsorption on TiO₂ within 200-400°C, depends on the surface reduction of TiO₂ to the lowest oxide. The study included the reaction of the catalytic decomposition of ethyl alcohol at 300°C on two titanium oxide samples. It is shown that the reaction takes place at a changed chemical composition of the catalyst surface, which manifests itself in an increase of its dehydrogenating effect.

The authors' summary

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

5(4)
AUTHORS:

Spitsyn, E. V., Maydanovskaya, L. C. SOV/76-53-1-30/45

TITLE:

The Thermal Dissociation of Vanadium Pentoxide
(Termicheskaya dissotsiatsiya pyatiorikisi vanadiya)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, pp 180-183
(USSR)

ABSTRACT:

The thermal dissociation of V_2O_5 has already been determined a number of times (Refs 1-3). The determinations were not yet carried out, however, on conditions applicable to catalysts. In the case in point, the investigations were carried out under conditions of vapor-phase oxidation on vanadium catalysts, i.e. at 370, 412, 432, and 466°C. A vacuum arrangement (Ref 4) was used and two types of samples, pure V_2O_5 and V_2O_5 obtained by the decomposition of ammonium vanadate, were examined (Ref 5). The investigation results obtained (Fig 1) show that the thermal dissociation of V_2O_5 proceeds in the form of s-shaped curves, typical of topochemical reactions. The decomposition velocity increases with a temperature rise. For a better evaluation of the temperature influence and the dissociation velocity, the velocity constant

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The Thermal Dissociation of Vanadium Pentoxide

SOV/76-33-1-30/45

was calculated using the Yerofeyev-Kolmogorov equation (Ref 6). The equation was in accordance with the experimental data (Fig 1). The activation energy was calculated from the velocity constants (Table 1) using the Arrhenius (Arrhenius) equation (8.6 kcal/mol). The structural change of V_2O_5 was examined by X-rays, according to Laue, by white Cu-radiations ($U = 30$ kv, $I = 12$ ma) (Fig 3). It was found that no structural change takes place on heating (20-460°C) (Fig 4). Ethanol oxidation, however, causes a structural change (Fig 5). In conclusion, gratitude is expressed to V. N. Zhdanova. There are 5 figures, 2 tables, and 9 references, 6 of which are Soviet.

ASSOCIATION: Tomskiy gosudarstvennyy universitet (Tomsk State University)

SUBMITTED: July 8, 1957

Card 2/2

ACCESSION NR: AT4040551

S/2564/64/004/000/0015/0021

AUTHOR: Sheftal', N. N.; Givargizov, Ye. I.; Spitsyn, B. V.; Kevorkov, A. M.

TITLE: Growth of epitaxial germanium films from supercooled droplets

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 4, 1964, 15-21

TOPIC TAGS: germanium, germanium crystal, crystal growth, germanium film, epitaxial film, epitaxial germanium film, supercooled droplet, germanium monocrystal, gas phase crystallization, germanium tetrachloride, crystallography

ABSTRACT: In a study of the peculiarities of "high-temperature" crystallization of germanium from the gaseous phase during reduction of GeCl_4 by hydrogen, (111), (110) and (100)-oriented monocrystalline germanium plates were ground, chemically polished (HF and HNO_3) washed with deionized water and dried. After preheating in a flow of dry hydrogen at 870°C to remove surface oxides, the plates were grown for about 10-20 min. at 740-870°C in the apparatus previously described. The new 5-10 micron layer was then examined with an optical and electron microscope. These examinations showed that the crystal growth resulted from deposition of very small droplets of supercooled germanium on the surface. The

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phenomenon is discussed in detail and is given a theoretical explanation. An energy diagram characterizing the transformation is plotted which shows the two possible transformation patterns: (1) formation of free germanium atoms from the chemical compound with their subsequent condensation, and (2) decomposition of molecules of the initial compound directly on the surface of the condensed phase. "The authors extend their gratitude to Candidate in the Physical-Mathematical Sciences S. A. Semiletov for preparing the electronogram, and to M. V. Gavrilova for the electron-microphotographs." Orig. art. has: 8 figures.

ASSOCIATION: Institut kristallografi, AN SSSR (Institute of Crystallography, AN SSSR)

SUBMITTED: 00

DATE ACQ: 02Jul64

ENCL: 00

SUB CODE: IC, EC

NO REF SOV: 004

OTHER: 003

Card 2/2

SHITOV, V. V.

"Synchronous Transmission and the Follower Drive", Military Engineering Red Banner Academy imeni Kuybyshev, Moscow, 1949, 276 pp.

SHITSYN, E.N.; YASKOLKO, V.Ye.

Electron paramagnetic resonance of Mn²⁺ in crystal phosphors on
the basis of CaSO₄. Nauch. trudy TaskGU no.262 Fiz. nauki no.22:
76-78 '64. (MIRA 18:5)

SPITSYN, G.G.

The lines are waiting for young miners. Proizv. obuch. 5 no.1:7 Ja '48.
(MLRA 7:6)

1. Zamestritel' ministra ugol'noy promyshlennosti vostochnykh rayonov SSSR.
(Coal miners)

SPILIN'.

bilirubin activity of the blood plasma under the influence
of various factors on the function of the pancreas in dogs.
Fiziol.i eksp.terap. 9 no.4:51-54 Jl-Ag '65. (MIRA 18:9)

I. katedra patologicheskoy fiziologii (zav. - dotsent S.I.
Georgiyevskiy) Krymskogo meditsinskogo instituta, Simferopol'.

SPITSYN, I.N., konstruktor; MIKHALEV, V.D., konstruktor; RISOVANNY,
A.I., konstruktor

Mechanical loader for loading bulk materials in railroad
cars. Suggested by I.N.Spitsyn, V.D.Mikhalev, A.I.Risovannyi.
Rats.i izobr.predl.v stroi. no.11:23-25 '59.
(MIRA 13:3)

1. Po materialam Tsentral'nogo byuro tekhnicheskoy informatsii
Permskogo sovnarkhoza.
(Loading and unloading) (Building materials--Transportation)

SPITSYN, I.P.

Interaction of flows in the main river bed and the flood plain.
Meteor. i gidrol. no.10:22-27 O '62. (MIRA 15:9)

1. Leningradskiy gidrometeorologicheskiy institut.
(Runoff)

L 61056-65 EPF(c)/EPA(s)-2/EWP(j)/EWT(m)/T Pe-4/Pr-4/Ps-4 RM/WW

ACCESSION NR: AP5017878

UR/0286/65/000/011/0130/0130
629.132

47

B

AUTHOR: Gokhman, A. Kh.; Spitsyn, I. P.; Konstantinov, L. I.; Ustinov, V. M.

Vaynshteyn, G. M.; Polyanker, A. G.

TITLE: Dirigible hull. Class 62, No. 171738

SOURCE: Byulleten' izobreteniy i tovarknykh znakov. no. 11, 1965, 130

TOPIC TAGS: dirigible, dirigible hull, dirigible hull construction

ABSTRACT: An Author Certificate has been issued for a dirigible hull featuring increased rigidity and uniform distribution of stresses. It is composed of rhombic panels fabricated from a foam plastic filler sandwiched between fiberglass walls (see Fig. 1 of the Enclosure). The panels are individually fastened together and have reinforced edges. Orig. art. has: 1 figure. [KT]

ASSOCIATION: none

SUBMITTED: 26Aug63

ENCL: 01

SUB CODE: AC, MT

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4060

Card 1/2

L 61056-65
ACCESSION NR: AP5017878

ENCLOSURE: 01

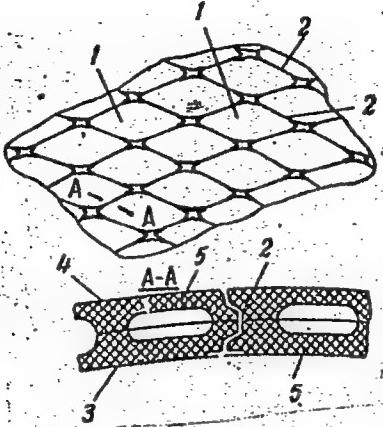


Fig. 1. Fiberglass and foam-plastic dirigible hull

1 - Rhombic panels; 2 - edges for connecting the panels; 3 - inner fiberglass-hull wall; 4 - outer fiberglass-hull wall; 5 - foam-plastic filler.

Card 2/2

SPITSYN, M.A.

Industrial application of high frequency currents in the national
economy of the U.S.S.R. [Izd.] LONITOMASH no.33:5-11 '54.
(Induction heating)(Dielectric heating) (MIRA 8:2)

Spitsyn, R. A.

ZHEZHERIN, Rostislav Petrovich; SPITSYN, Mikhail Aleksandrovich, kandidat tehnicheskikh nauk; FOGEL', A.A., kandidat tehnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tehnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tehnicheskikh nauk, redaktor; BANUER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tehnicheskikh nauk, retsenzent; SYCHEVA, O.V.' tekhnicheskiy redaktor.

[Power generators for high-frequency heating] Mashinnye generatory dlia vysokochastotnogo nagreva, Izd.2-e, ispr. i dop. Pod red. A.A. Fogelia, Moskva, Gos.nauchno-tekhnik.izd-vo mashinostroit.lit-ry, 1957. 49 p. (Biblioteka vysokochastotnika-termista, no.8) (MLRA 10:6)

(Induction heating) (Electric generators)

SPITSYN, M.A.

129-4-12/12

AUTHOR: Rustem, S.L.

TITLE: All-Union Conference on industrial use of high frequency currents held in Leningrad. (Vsesoyuznoye soveshchaniye po promyshlennomu primeneniyu t.v.ch. v g. Leningrade).

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, No.4, pp. 61-64 (USSR).

ABSTRACT: The conference held in November, 1957 was convened by the Leningrad Scientific and Technical Society of the Engineering and Power Generation Industry (Leningradskoye Nauchno-Tekhnicheskoye Obshchestvo Mashinostroitel'noy i Energeticheskoy Promyshlennosti). The task of the conference was to report on advanced experience, to discuss achievements in this field outside the Soviet Union and to evolve recommendations for expanding the use of high frequency in industry and introduction of progressive technology and also evolving organisational measures for improving the quality of high frequency equipment and apparatus. The conference included sections for induction heating technology, metals technology, non-conducting materials and equipment.

Candidate of Technical Sciences, M.A. Spitsyn (NII TVCh imeni V. P. Vologdin) read the paper "New developments in the field of industrial application of high frequency

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All-Union Conference on industrial use of high frequency currents held in Leningrad.

chemical-heat treatment and is used successfully in the automobile industry.
3. Hardening of the drilling bits for use in the oil industry.
4. "Bright" annealing of steel strip.
5. Two-frequency heating of steel blanks for heating by applying pressure, particularly for rolling.
6. Heating and hardening of leaf springs on automatic machines.
7. High speed tempering of hardened components using high frequency heating etc. For automating technological processes, the following are at present manufactured:
An automatic machine for heating and hardening of leaf springs; manipulator for horizontal forging machines; automatic machines for hardening of small components.
Of the new apparatus used in induction heating, the author mentioned a stabiliser of the temperature of components being heated, a photo-electric pyrometer with a direct reading off of the temperature, relay for dosing the energy, etc. Of particular interest were the data he gave on Card 3/14^{the} the two-frequency heating of gears. The entire process

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"valleys" form at spacings equalling the half-wave of the supersonic oscillations generated by the high frequency. In non-magnetic steels no such phenomenon was observed. It was also observed that with increasing number of cycles, heating-cooling, the diameter of the cylindrical specimens in the heating zone increases, whilst the height of the specimens decreases. Furthermore, the author reported on the method of G. V. Uzhik which enables increasing the static strength up to 300%; this is achieved by using h.f. heating of a thin layer in the zone of stress concentrations at the surface of steel components. Thus, for instance, cylindrical specimens made of hardened 40X steels with a stress concentrator in the form of a notch will be 2.5 times stronger if the notch zone is tempered by using h.f. heating. M. G. Lozinskiy considers that use of the method of strengthening applying h.f. tempering of the stress concentration zones will permit evolving specifications which would justify more rational designs than those used hitherto.

K. Z. Shepelyakovskiy (ZIL) read the paper "On reducing Card 5/14 the hardenability as a means of achieving contour (surface)

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surface hardening of gears by induction heating with two frequencies. The method ensures heating along the contour of gears with moduli of 3.5 to 5. During heating with a lower frequency (1000 to 2000 c.p.s.), the bottom of the tooth gap is heated intensively, whilst at radio frequency (300 000 c.p.s.) the tip of the tooth is heated. The same inductor is used for both frequencies. The heating with the lower frequency lasts 2.5 to 4 secs; thereby, the specific power consumption is 1.5 to 1.7 kW/cm². Heating with the higher frequency is effected for 0.5 to 0.7 sec using a specific power of 1.1 to 1.2 kW/cm². The 1000 c.p.s. current is generated by a 500 kW rotary generator, whilst the 300 kc/sec current is generated with an oscillator circuit of 400 kW rating. During hardening of gears made of steel "45" cracks occur and, therefore, the carbon content was reduced and alloy steels 36Г2C, 35СГ etc. are being used. For fracturing a tool of a surface hardened gear a force of 9.5 to 17 tons is required, whilst the force required for fracturing case hardened gears after hardening, made of the steel 18ХГТ, did not exceed 10 tons per tooth. Gears produced by using Card 7/14

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Staliprokatniy Zavod). The optimum frequency depends on the thickness and the width of the strip. For a thickness of 0.2 to 0.6 mm and a width of 100 mm it is recommended to use a current of 8000 c.p.s.; for strip of 200 mm a current of 2500 c.p.s. and for a width of 400 mm a current of 1000 c.p.s. On heating strip to 700-900°C, the uniformity of the temperature along the breadth of the strip is $\pm 25^{\circ}\text{C}$. For heating, a two-turn inductor was used, whereby the conductors of the current and of the magnetic flux were water cooled. This method was applied in the case of bright annealing of cold rolled strip. For a speed of movement of the strip of 25 m/min the required power was 200 kW (for a frequency of 2500 c.p.s.). The productivity of the equipment equalled 1 ton/hr. The specific power consumption during induction heating is 180-190 kWh/ton. Compared with annealing in chamber furnaces, this method has a number of advantages since thereby the productivity per m^2 of production space is increased two to threefold, the annealing time is reduced by several hundred times, uniform mechanical properties are ensured along the entire length of the

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transformation temperature does not depend on the speed of heating and the magnitude of the volume effects depends on the composition of the alloy and the preceding heat treatment. When heating annealed iron-carbon alloys, the transformation temperature is determined by the speed of heating and by the initial structure. On heating hardened low alloy carbon-free alloys, the transformation temperature compared to that in the alloys in the annealed state does not change at all in some cases (Fe-Si; Fe-Ti), whilst in other cases it decreases by 30 to 40°C (Fe-Cr and Fe-W). On heating hardened steels, the dilatometric recordings show clearly the volume changes caused by the martensite decomposition and by the phase transformation; the decomposition cannot be suppressed not even at heating speeds of 60 000°C/sec. At high heating speeds of hardened steels, the phase transformation takes place in the range of 700°C, i.e. at lower temperatures than the transformation during slow heating. Investigations of the influence of the heating speed on the structure and properties of hardened, carbon and alloy steels in the case of electric tempering showed that at elevated

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hardening regimes which would conserve the character of
generally valid relations under conditions which are
reproduceable in normal production.

V. P. Pleshachkova (TsNIIITMASH) read an interesting paper
on the deformation of surface hardened steel. H.F. surface
hardening permits reducing the deformation of the steel.
The author investigated the influence on the deformation
of the following factors: heating temperature, cooling
speed, depth of the hardened layer, structure of the
starting material and also of the temperature and time
of heating in the case of low temperature tempering.
The results have shown that in the case of h.f. surface
hardening of ring specimens with small height to diameter
ratios (1:4; 1:7) produced from various steels, the
deformation manifests itself in a decrease of the outside
diameter and an increase in the height and in the inner
diameter. An increase in the temperature leads to an
increase in the deformation along the outside and inside
diameters and manifests itself less on the height of the
rings. The deformation of rings made of alloy steels
is greater than for rings made of carbon steels under

Card 13/14

VUKOLOV, L.A., kand. tekhn. nauk; SPITSYN, M.A., inzh.

Investigating the coefficient of wheel pair adhesion with rails
during braking. Vest. TSNII MPS 17 no.8:34-37 D '58.

(MIRA 12:1)

(Railroads—Brakes) (Car wheels)

SPITSYN, M. A.

Cand Tech Sci - (diss) "Study of the contact of wheel steam on rails during braking." Leningrad, 1961. 18 pp; (Ministry of Railways USSR, Leningrad Order of Lenin Inst of Railroad Transport Engineers imeni Academician V. N. Obraztsov); 185 copies; price not given; (KL, 5-61 sup, 193)

SPITSYN, M.A., kand.tekhn.nauk, starshiy prepodavatel'

"Brake valves" by V.A. Grimo, B.I. Krylov, A.K. Ozolin. Reviewed
by M.A. Spitsyn. Elek.i tepl. tiaga 5 no.12:41 D '61. (MIRA 15:1)

1. Belorusskiy institut inzhenerov zheleznodorozhnogo transporta,
g. Gomel'.

(Locomotives—Brakes)
(Grimo, V.A.) (Krylov, B.I.) (Ozolin, A.K.)

SPITSYN, M.A.; FILIMONOV, A.I., kand. tekhn. nauk, dots., nauchn. red.; KOSTYUKOVETS, F.T., red.; MORGUNOVA, G.M., tekhn. red.

[Studying the adhesion of rail and wheels during braking]
Issledovanie stsepleniia koles s rel'sami pri tormozhenii.
Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1963. 40 p.
(MIRA 17:4)

SPITSYN, M.F., kand.ekon.nauk

Experience of efficiency promoters in the shoe industry. Leg. prom.
(MIRA 11:9)
18 no.8:42-44 Ag '58.
(Shoe manufacture)

SPITSYU, M.N.

SPITSYU, M.N., gornyy inzhener.

Selecting the shape and design of a dragline bucket. Gor'zhur.
no. 2:53-55 S '57. (MLRA 10:9)
(Excavating machinery)

SEMIOTROCHEV, V.L.; BARAK, TS.M.; SPITSIN, M.P.; POPINYAN, I.O.;
YERUSHEVA, L.F.; MISALEVA, O.S.

Pasteurellosis in man in Kazalinskiy District of Kzyl-Orda Province.
Zhur. mikrobiol., epid. i immun. 42 no.8:143-144 Ag '65.

(MIRA 18:9)

1. Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy in-
stitut, Alma-Ata.

SPITSYN, M.A.; FOGEL', A.A., kand. tekhn. nauk, red.

[Mechanical generators for induction heating] Mashinnye generatory dlia vysokochastotnogo nagreva. Izd.3., perer. i dop. Moskva, Mashinostroenie, 1965. 51 p.
(MIRA 18:8)

SHAMOV, Aleksandr Nikolayevich; FOGEL', A.A. kandidat tekhnicheskikh nauk, redaktor; SPITSYN, M.S., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tekhnicheskikh nauk, redaktor; BAEUMER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, rezensent; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Current supply of high-frequency heating installations by power generators] Pitanie vysokochastotnykh nagrevatel'nykh ustroistv ot mashinnykh generatorov, Izd.2-oe, ispr. i dop. Pod red. A.A. Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 55 p. (Biblioteka vysokochastotnika-termista, no.10)
(MLRA 10:6)

(Induction heating)

ZAPOL'SKIY, M.V.; SAFRONOV, D.I.; SPITSIN, M.Ye.

The casting of steel parts without shrink head. Torf.prom.32
no.4:15-17 '55. (MILRA 8:10)

1. Ivtorfmash.
(Steel casting) (Peat machinery)

SPITSYN, N.; SHLYAKHETKO, V.

Our experience in mechanizing accounting. Den. i kred. 13 no.5:25-29
(MIRA 8:7)
My '55.
(Banks and banking—Accounting) (Machine accounting)

SPITSIN, N., inzh.

Removal of paint and oil coatings. Mor. flot 23 no.4:37 Ap
'63. (MIRA 16:5)
(Ships--Maintenance and repair)

SPITSYN. N.A., inzhener.

Calculating flood regulating installations for water level control at
hydroelectric power plants. Gid.stroi. 22 no.8:31-33 Ag '53. (MLRA 6:8)
(Hydroelectric power stations)

Sp. 110711, 1957, p. 10

KUCHKIN, Mikhail Dmitriyevich; SPITSYN, Nikolay Andreyevich; BALAKIREV, V.F.,
retsenzent; KOZIS, V.L., retsenzent; LARIONOV, G.Ye., tekhn.red.

[Automatization of hydroelectric power stations] Avtomatizatsiya
gidroelektricheskikh stantsii. Pod obshchei red.M.D.Kuchkina.
(MIRA 10:12)
Moskva, Gos.energ.izd-vo, 1957. 350 p.
(Hydroelectric power stations) (Automatic control)

СИДОРЧЕНКО, А., ДРОГИН, В. Р., СИДОРЧЕНКО, А. Н., КУЧИК, А. А., СИДОРЧЕНКО, Е. Е.

"The ecological and clinical types of the natural focus of trichuriasis." p. 173.

Материалы конференции по паразитологическим проблемам и природоведению
Беларусь. 1973. Симпозиум 1973 г. (Xenth Conference on Parasitological Problems
and Environmental Biology and Medicine 22-24 October 1973), Minsk-Stalingrad, 1973,
Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 - 254pp.

Oblast Sanitary-Epidemiological Station/Stalingrad

OLSUF'YEV, N.G.; KUCHERUK, V.V.; BORODIN, V.P.; PETROV, V.G.; UGLOVOY, G.P.;
KULIK, I.L.; NIKITINA, N.A.; SAMSONOVA, A.P.; YERMOLOVA, A.D.; SPITSYN,
N.A.

Changes in the conditions of existence of the natural tularemia focus
in the northern part of the Volga-Akhtuba flood plain area in connection
with the construction of the Volgograd Hydroelectric Power Station.
Zhur. mikrobiol., epid. i immun. 40 no.11:127-132 N '63.

(MIRA 17:12)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR
i Volgogradskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.

YAGOROV, V. I.; SPITSYN, N.A. [deceased]

Some characteristics of gas and nitrogen metabolism during the
growth and development of *Bacillus anthracis*. Veterinaria 38
no. 2:45-47 F '61. (MIRA 18:1)

SPITSYN, N. A., BEZEL'MAN, R. D., and B. V. TSYPKIN

Podshipniki kacheniiia. Raschet i vybor podshipnikov kacheniiia, konstruirovanie podshipnikovykh uzlov. Moskva, Mashgiz, 1945.

Bearings with rolling contact. Calculations and selection of rolling contact bearings, designing bearing units.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SPITSYN, N. A. and A. A. PORTUGALOVA

Podshipnikovye uzly vysokoskorostnykh privodov. Moskva, Mashgiz, 1948.
148 p.

Bearing units of high-speed drives.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

BEYZEL-MAN, R.D.; SPITSYN, N.A., kandidat tekhnicheskikh nauk; rezensent.
FREYDBERG, V.Z., redaktor; POPOVA, S.M., tekhnicheskiy redaktor.

[Repair of bearings] Remont podshipnikov. Izd. 2-e (ispravленное).
Moskva, Gos. nauchno-tekhn. izd-vo. Mashinostroit. lit-ry, 1969.
135 p. (MIRA 8:2)
(Bearings (Machinery))

SPITSYN, M. A. and A. A. PORTUGALOVA

Sverkhbystrokhodnyi remennyi privod. (Vestn., Mash., 1949, no. 5, p. 29-30)

Super high-speed belt drive.

DLC: TN4.v4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

SPITSYN, N. A.

Zadachi issledovaniia v oblasti vysokoskorostnogo privoda. (Vestn. Mash., 1950, no. 3, p. 12-15)

Research problems in the field of high-speed drives.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SPITSEN, N. A.

Technology

Podshipniki kacheniiia (Rolling friction bearings). VNITCMASH, Zadchnye kursy usovershenstvovaniia inzhenerov-konstruktorov) Moskva, Mashgiz, 1951. 40 p.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

SPITSYN, N. A. (Prof.)

Electric Motors

Operation of high-speed drives. Vest. mash. 31 no. 10, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September, 1952
1953. Unclassified.

S. I. TSYK, I. A.

Spindles (Machine Tools)

Calculating the magnetic field of high speed electric spindles. Podshipnik no. 3, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, May 1952. Uncl.

1. SITSEV, N. A. Prof
2. USSR (600)
4. Railroad Engineering
7. Problems in selection and use of roller bearings on the railroads. Podshipnik no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953, Unclassified.

1. SPITSYN, N. A., ; VLADIMIROV, V. B.

2. USSR (600)

4. Ball Bearings

7. Effect of tempering cracks appearing in grinding of ball bearings upon the durability of bearings. Podshipnik no. 9, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

1. SPITSYN, N. A., Prof.
2. USSR (600)
4. Lubrication and Lubricants
7. Lubricating high-speed bearings. Podshipnik, No. 12 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KUGEL', R.V.; LIPGART, A.A., laureat Stalinskikh premiy, retsenzent; ZISLIN, S.G., inzhener, retsenzent; SPITSYN, N.A., professor, retsenzent; KODIN, A.S., inzhener, redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor.

[Roller bearings for automobiles] Podshipniki kacheniiia avtomobilei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1953. 170 p. (Metody ispytaniia avtomobilja i ego mekhanizmov, no.5) (MLRA 7:10)

1. Chlen-korrespondent Akademii artilleriyskikh nauk (for Lipgart)
(Roller bearings)

ACHERKAN, Naum Samuilovich, 1872-, doktor tekhnicheskikh nauk, professor, redaktor; BELYAYEV, V.N., dotsent, kandidat tekhnicheskikh nauk; BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener; GORODETSKIY, N.Ye., professor, doktor tekhnicheskikh nauk; IVANOV, B.A., professor, doktor tekhnicheskikh nauk; KOLMIYTSEV, A.A., dotsent, kandidat tekhnicheskikh nauk; KRAGEL'SKIY, I.V., professor, doktor tekhnicheskikh nauk; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., professor, doktor tekhnicheskikh nauk; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.N., professor, doktor tekhnicheskikh nauk; RESHETOV, L.N., professor, doktor tekhnicheskikh nauk; SAVERIN, M.A., professor, doktor tekhnicheskikh nauk; SAVERIN, N.A., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., professor, doktor tekhnicheskikh nauk; STOLEBIN, G.B., dotsent, kandidat tekhnicheskikh nauk; UMNOK, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., dotsent, kandidat tekhnicheskikh nauk.

[Machine parts; collection of materials on calculation and design in two volumes; vol.1] Detali mashin; sbornik materialov po raschetu i konstruirovaniyu. Izd.2., ispr.i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953- .
(MLRA 6:11)

(Machinery--Design)

ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor;
BELYAYEV, V.N., kandidat tekhnicheskikh nauk, dotsent;
BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S.,
kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener;
GORODETSKIY, I.Ye., doktor tekhnicheskikh nauk, professor;
IVANOV, B.A., doktor tekhnicheskikh nauk, professor;
KOLOMIYTSEV, A.A., kandidat tekhnicheskikh nauk, dotsent;
KRAGEL'SKIY, I.V., doktor tekhnicheskikh nauk, professor;
MAZYRIN, I.V., inzhener; NIKOLAYEV, G.A., doktor tekhnicheskikh nauk, professor; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.I., doktor tekhnicheskikh nauk, professor; RESHETOV, L.N., doktor tekhnicheskikh nauk, professor; SAVERIN, M.A., doktor tekhnicheskikh nauk, professor; SAVERIN, M.M., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; STOLBIN, G.B., kandidat tekhnicheskikh nauk, dotsent; UMEOV, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., kandidat tekhnicheskikh nauk, dotsent.

[Machine parts; collection of materials on calculation and design in two volumes] Detali mashin; sbornik materialov po raschetu i konstruirovaniyu v dvukh knigakh. Izd.2. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit.lit-ry.
Vol. 2. 1953. 560 p. (MLRA 6:12)

(Machinery--Design)

SEITSYN, N. A., Prof.

Ball Bearings

Ball and thrust bearing, the characteristics of their application and installation,
Podshipnik No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; BELYANCHIKOV, M.P.,
inzhener.

Operation of electric internal grinding spindles. Vest. mash. 33
no.12:26-28 D '53. (MLRA 6:12)
(Grinding and polishing)

POLYAKOV, V.S., dotsent, kand.tekhn.nauk; KUDRYAVTSEV, V.N., prof., doktor tekhn.nauk; ZUBANOV, M.P., dotsent, kand.tekhn.nauk; ANOSOV, A.S., dotsent, kand.tekhn.nauk; BARBASH, I.D., inzh.; MIAGKOV, V.D., inzh.; KOLCHIN, N.I., prof., doktor tekhn.nauk, red.; SPITSYN, N.A., prof., doktor tekhn.nauk, retsaenzent; FADEYEV, N.K., dotsent, kand.tekhn. nauk, red.; GOLOVANOV, N.F., kand.tekhn.nauk, red.; POL'SKAYA, P.G., tekhn.red.

[Machine parts] Detali mashin. Pod red. N.I. Kolchina. Moskva,
Gos. nauchno-tekhn.izd-vo mashinostroit. i sudostroit. lit-ry,
1954. 720 p. (MIRA 11:12)

(Machinery)

Spitsyn, N.A.

USSR/Engineering - Electrical drives

Card 1/1 Pub. 103 - 2/23

Authors : Spitsyn, N. A.

Title : The status or work on the development of a high-frequency, high-speed electric drive

Periodical : Stan. i instr. 2, 4-6, Feb 1954

Abstract : The need for HF, high-speed electric drives for the operation of modern machines (boring jigs, grinders, cutters etc.) is emphasized. The advantages of electric drive systems over mechanical and pneumatic drives are listed. The status of the development of high rpm electric drives is discussed. The economical aspects of electric power drives are analyzed. Table, diagrams, drawing; illustration.

Institution :

Submitted :

SPITSYN, N.A., doktor tekhnicheskikh nauk, professor.

160,000 revolutions per minute. Nauka i zhizn' 21 no.1=34-35 Ja '54.
(MLRA 7:1)
(Machine tools)

KUKIBNYY,A.A., kandidat tekhnicheskikh nauk; SKRIPKO,I.S., assistent;
SPITSYN,NA.A, professor, doktor tekhnicheskikh nauk; IVANOV,Ye.A.,
kandidat tekhnicheskikh nauk

"Machine parts." V.S.Poliakov and others. Reviewed by A.A.Kukibnyi
and others. Vest.mash.35 no.8:86-89 Ag'55. (MLRA 8:10)
(Machinery) (Poliakov,V.S.) (Kudriavtsev,V.N.)

517513

3-3-11/40

AUTHOR: Grigor'yev, A.M., Doctor of Technical Sciences

TITLE: A letter to the editor on the problem of instruction
in "Machine Parts"

PERIODICAL: Vestnik Vysshey Shkoly, March 1957, # 3, p 51-53 (USSR)

ABSTRACT: With reference to Professor N.A.Spitsyn's article in this journal, # 6, 1956, the author expresses the opinion that the supply of instructional literature will considerably improve training in "Machine Parts". The higher technical schools have at present 2 training manuals - one written by Professor V.A.Dobrovolskiy and the other by an authors' collective under the editorship of Professor N.I.Kolchin. The author maintains that this is by far an insufficient number of manuals and that quite acceptable manuals could be prepared by the teaching personnel of the respective professorial chairs. He further claims that atlases of Soviet and foreign machine tools, automats, textile machines, of agricultural machine building, power machine construction, transport and heavy machine construction etc. are not available and states that the Ministry of Higher Education should

Card 1/2

A letter to the editor on the problem of
instruction in "Machine Parts"

3-3-11/40

satisfy the schools' need for such aids, and to supplement
the book market with writings of foreign authors on machine
construction.

ASSOCIATION: Kazan' Chemico-Technical Institute(Kazanskiy khimiko-tehnologicheskiy institut)

AVAILABLE: Library of Congress

Card 2/2

SPITSYN, V. A.

5-6-12/29

AUTHORS: Gut'yar, M., Reznikov, D.N., Spitsyn, N.A., Professors,
Doctors of Technical Sciences.

TITLE: Questions on Teaching the Course in "Machine Parts" (Voprosy
prepodavaniya kursa "Detali Mashin") Results of the Discus-
sions (Itogi diskussii)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 6, pp 56-57 (USSR)

ABSTRACT: The Teaching Methods Administration of the Ministry of Higher
Education submitted to the Conference of Representatives of
Moscow Vuz Crisms (see # 5 of 1957; this periodical) the re-
sults obtained from the discussion of questions pertaining to
the course in machine parts at the higher technical institu-
tions. The discussions at the conference proved that to im-
prove the foundations of engineer's training, the adoption of
a number of measures in this direction was necessary. The
discussions led to the following conclusions: 1) The course
is to be given a more precise place and number of hours in
the curriculum; 2) The lecture is to be regarded as the basic
form to convey the theoretical foundations of the course.
The chairs are to improve the methodical teaching and select
the most important and valuable information; 3) The time

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5-8 12/24

Questions on Teaching the Course in "Machine Parts": Results of the Discussions.

assigned for designing is to remain in the same. 4) Laboratories, museums and study rooms for machine parts are to be established, where students can learn laboratory research and new assembly construction methods; 5) The program is to define more accurately the lecturing, seminar, and laboratory work and the written examinations, assigning one program for machine-construction Vuzes and another one for technological Vuzes; 6) The basic principles of the course are to be supported by proper scientific conclusions. 7) Special attention is to be paid to the course textbooks; 8) Questions of secondary importance and antiquated information is to be omitted. 9) A system of raising the qualifications of instructors is to be elaborated and realized. The chairs are to be assisted in equipping the laboratories with machine parts.

AVAILABLE: Library of Congress

Card 2/2

SPITSYN, N.A., prof., doktor tekhn.nauk

Basic trends in the development of designs and the use of
high-frequency driven and leather-belt driven spindles.
Izv.vys.ucheb.zav.;mashinostr. no.2:50-56 '58. (MIRA 11:12)

1. Moskovskiy vecherniy mashinostroitel'nyy institut.
(Spindles (Machine tools))

SPITSYN, N.A., prof., doktor tekhn. nauk

Effect of centrifugal forces on the performance of radial-thrust
and thrust ball bearings at high speeds. Izv. vys. ucheb. zav.;
mashinostr. no.10:23-33 '58. (MIRA 12:10)

1. Moskovskiy vecherniy mashinostroitel'nyy institut.
(Ball bearings--Testing)

SPITSYN, N.A., doktor tekhn. nauk, prof.

Limit speed of ball bearings having cages made of various materials.
Izv. vys. ucheb. zav.; mashinostr. no.11/12:102-111 '58.
(MIRA 13:3)

1. Moskovskiy vecherniy mashinostroitel'nyy institut.
(Ball bearings)

SOV/123-59-15-59267

Translation from: Referativnyy zhurnal.. Mashinostroyeniye, 1959, Nr 15, p 60 (USSR)

AUTHOR: Spitsyn, N.A.

TITLE: Fifteen Years of Electric Spindle Manufacture in the Soviet Union

PERIODICAL: Tekhnol. podshipnikostroyeniya, 1958, Nr 17, pp 176 - 180

ABSTRACT: The article has not been reviewed.

Card 1/1

S/124/60/000/006/036/039
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 6, p. 181, # 8129

AUTHORS: Belyanchikov, M.P., Narodetskiy, M.Z., Spitsyn, N.A.

TITLE: The Development of the Theory of Calculation of Antifriction Bearings During 15 Years

PERIODICAL: Tekhnol. podshipnikostroyeniya, 1958, No. 17, pp. 181-193

TEXT: The authors present a brief review on the theoretical investigations applied to antifriction bearings. These investigations may be divided into a number of divisions: 1) Contact problems of the elasticity theory. Works on investigation of the contact stresses pertain hereto, which arise between the ball or the roller and the race of the bearing. 2) The application of the classical methods of the two-dimensional elasticity theory to the solution of several problems of antifriction bearing designing. The problem of stresses is solved, which occur in the bearing races. On the basis of this work, minimum allowances were determined which are necessary for mounting the bearing into the engine case. 3) The development of new methods for solving the problems of the two-dimensional elasticity theory for calculating the components of antifriction bearings. The

Card 1/2

SPITSYN, N.A., doktor tekhn. nauk, prof.

"Atlas of machine parts (joints and couplings)" by V.L. Sakhnenko
and others. Reviewed by N.A. Spitsyn. Vest. mash. 38 no.2:84-85
P '58. (MIRA 11:1)

(Couplings)
(Sakhnenko, V.L.)

S//SI SVR
SPITSYN, N.A., doktor tekhn. nauk, prof.

Investigating antifriction bearings. Vest. mash. 38 no.3:3-8 Mr
'58. (MIRA 11:2)
(Bearings (Machinery))

SPITSYN, N.A., prof., doktor tekhn.nauk

"Theoretical fundamentals for machine design". Reviewed by
N.A.Spitsyn. Vest. mash. 38 no.9:84 S '58. (MIRA 11:10)
(Machinery--Design)

SPITSYN, N.A., prof., doktor tekhn.nauk

Development and state of spindle supply in bearing and
machinery plants of the U.S.S.R. and abroad. Izv.vys.ucheb.
zav.; mashinostr. no.5:124-130 '59. (MIRA 13:4)

1. Eksperimental'nyy nauchno-issledovatel'skiy institut
podshipnikovoy promyshlennosti, i Vecherniy mashinostroitel'-
nyy institut.
(Grinding machines) (Industrial management)

PRONIN, Boris Alekseyevich, dotsent, kand.tekhn.nauk; SPITSIN, N.A., prof., doktor tekhn.nauk, retsenzent; IVANOV, Ye.A., kand. tekhn.nauk, red.; UVAROVA, A.F., tekhn.red.

[V-belt and friction transmissions and variators] Klinore-mennye i friktsionnye peredachi i variatory. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 333 p.
(MIRA 13:3)

(Power transmission)

SPITSYN, N.A., doktor tekhn.nauk, prof.

Development of the manufacture of electric spindles in the U.S.S.R.
Izv.vys.ucheb.zav.; mashinostroitel'nyy institut.
no.11:130-134 '60. (MIREA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut podshipnikovoy
promyshlennosti i Moskovskiy vecherniy mashinostroitel'nyy institut.
(Grinding machines--Electric driving)

SPITSYN, N.A., prof., dokt. tekhn. nauk; VIKTOROVA, Z.N., tekhn. red.

[Development and use of high speed drives equipped with anti-friction bearings abroad] Razvitiye konstruktsii i primenenie vysokoskorostnykh privodov na podshipnikakh kacheniiia za rubezhom. Moskva, TSentr. in-t nauchno-tekhn. informatsii mashinostroeniia, 1961.

(MIRA 14:11)

47 p.

(Bearings(Machinery)) (Power transmission)

SPITSYN, Nikolay Aleksandrovich; KAPKANETS, Ivan Ivanovich;
KOPTEVSKIY, D.Ya., red.; VORONINA, R.K., tekhn. red.

[Machine parts and hoisting and conveying machinery] Detali
mashin i pod"emno-transportnye mashiny. Moskva, Gos. izd-vo
"Vysshiaia shkola," 1961. 331 p. (MIRA 15:2)
(Mechanical engineering) (Hoisting machinery)
(Conveying machinery)